

INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 2004	Park: Shenandoah NP
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Permit#: SHEN-2004-SCI-0014	
Park-assigned Study Id. #: SHEN-00259	
Project Title: DOI-USGS AMPHIBIAN RESEARCH AND MONITORING INITIATIVE (ARMI) IN THE NORTHEAST	
Permit Start Date: Jul 01, 2004	Permit Expiration Date Jul 01, 2005
Study Start Date: Jul 01, 2004	Study End Date Jul 01, 2006
Study Status: Continuing	
Activity Type: Monitoring	
Subject/Discipline: Herpetology (Amphibians / Reptiles)	
Objectives: SNP is one of the Index Sites for the DOI-USGS Amphibian and Research Monitoring Initiative (ARMI) in the Northeast Region. The goals of this long-term amphibian monitoring project at SNP are to: 1. Monitor pond, stream and terrestrial amphibians 2. Estimate bias in and validate survey methodologies 3. Assess spatial and temporal variation in amphibian counts in relation to environmental variables 4. Assess health and disease status of amphibians at SNP 5. Provide amphibian and reptile distribution map data to SNP 6. Conduct population monitoring and conservation genetics work on the federally endangered Shenandoah salamander (Plethodon shenandoah)	
Findings and Status: An Excel spreadsheet showing survey method, date, latitude/longitude coordinates, species, age class, and counts of adults, larvae and egg masses was provided to Shenandoah National Park (James Atkinson and Alan Williams). In March 2004, we conducted egg mass and visual encounter surveys two times at each of 3 vernal pools in Shenandoah National Park. Below is a	

general summary of species observed at each pool.

- 1) Big Meadows: Dry (no breeding activity)
- 2) Hogcamp Swamp: wood frog
- 3) Pond Ridge: wood frog

We also surveyed 9 streams in 2004 using two 15 x 2 m transects (with 3 removal passes) and two 4 m² quadrats per stream. Below is a general summary of species observed at each stream during surveys conducted 6-8 July 2004.

- 1) Tributary to Hawksbill Creek (SRP42): northern two-lined salamander (*Eurycea bislineata*), northern dusky salamander (*Desmognathus fuscus*), seal salamander (*Desmognathus monticola*), northern red salamander (*Pseudotriton ruber*), Shenandoah salamander (*Plethodon shenandoah*), northern spring salamander (*Gyrinophilus porphyriticus*)
- 2) Paine Run: northern two-lined salamander, northern red salamander, northern spring salamander, seal salamander
- 3) Doyle's River (SRP35): northern two-lined salamander, seal salamander, northern red salamander
- 4) Tributary to Ivy Creek (SRP71): northern two-lined salamander, seal salamander, northern red salamander
- 5) Shenk's Hollow: northern two-lined salamander, seal salamander, northern dusky salamander
- 6) Jeremy's Run (SRP10): northern two-lined salamander, seal salamander, northern red salamander, northern spring salamander, northern dusky salamander
- 7) Devil's Staircase (SRP28): northern two-lined salamander, northern red salamander, seal salamander, northern dusky salamander
- 8) Piney River: northern two-lined salamander, seal salamander, northern red salamander
- 9) Staunton River: no salamanders

We also conducted visual encounter surveys turning over rocks and logs during the day at 10 terrestrial plots (15 and 20 m²) for terrestrial salamanders. Burn plots are located on Pumpkin Hill where prescribed burns occurred on 3 April 1999 and 9 April 2001. Control plots (not burned) are located in Shenks Hollow. Below is a general summary of species observed at each plot during surveys conducted on 28-30 March 2004.

Burn 2: northern red-backed salamander (*Plethodon cinereus*)

Burn 3: northern red-backed salamander

Burn 4: northern red-backed salamander

Burn 5: northern red-backed salamander

Burn 6: northern red-backed salamander

Control 2: northern red-backed salamander

Control 3: northern red-backed salamander, white-spotted slimy salamander (*Plethodon cylindraceus*)

Control 4: northern red-backed salamander

Control 5: northern red-backed salamander

Control 6: northern red-backed salamander

For this study, were one or more specimens collected and removed from the park but not destroyed during analyses?

Yes

Funding provided this reporting year by NPS:

0

Funding provided this reporting year by other sources:

5000

Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college

Full name of college or university:

n/a

Annual funding provided by NPS to university or college this reporting year:

0